

Date: Wednesday, 11/21/2007 12:46:29 PM  
 User: Kim Johnston

## Process Sheet

3

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : 205 SKID INSTALLATION KIT  
 Job Number : 35912  
 Estimate Number : 12519  
 P.O. Number : N/A Part Number : D205634015  
 This Issue : 11/21/2007 S.O. No. : N/A Drawing Number : IIN D205-634 REV D  
 Prsht Rev. : NC Project Number : N/A  
 First Issue : N/A Type : LANDING GEAR Drawing Revision : D  
 Previous Run : 35911 Material : N/A  
 Due Date : 1/15/2008 Qty: 1 Um: Each  
 Written By :  
 Checked & Approved By :  
 Comment : Est Rev: A New Issue 00-04-04 EC

## Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 DC DOCUMENT CONTROL



K50712.07

Comment: Photocopy bluefile &amp; type labels per PPP205-634-015 CHG 004

08/01/10

2.0 35912A SKID TUBE ASSEMBLY



Comment: Sub-Component SKID TUBE ASSEMBLY

B35912

08/01/10

(X1)

3.0 K10003 D205-634-011 Saddle Kit

Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)  
D205-634-011 Saddle Kit

B35914

08/01/10

(X1)

4.0 QC4 INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

08/01/10

5.0 PACKAGING 1 PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D205-634-015

Location: 35912

PPP Rev: E

08/01/10

(Y1)

6.0 QC21 FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/01/11

Job Completion



08/01/11 B35192A

| W/O: |      | WORK ORDER CHANGES |  |    |      |     |                                     |                          |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   |  | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |  |    |      |     |                                     |                          |
|      |      |                    |  |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☒ No ☐ DQA:   D   Date: 08/01/11

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                      |                                 |           |                |                           |                       |                          |
|------|------|----------------------------------|----------------------|---------------------------------|-----------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action    |                                 | Section B |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng | Action Description<br>Chief Eng |           | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                      |                                 |           |                |                           |                       |                          |
|      |      |                                  |                      |                                 |           |                |                           |                       |                          |
|      |      |                                  |                      |                                 |           |                |                           |                       |                          |

NOTE: Date & initial all entries

## 5.0 PARTS LIST

| Item | 634<br>-011 | 634<br>-015 | 634<br>-041 | 634<br>-045 | 641<br>-011 | Part Number   | Description                      |
|------|-------------|-------------|-------------|-------------|-------------|---------------|----------------------------------|
|      | X           |             |             |             |             | D205-634-011  | SKIDTUBE INSTALLATION (STANDARD) |
|      |             | X           |             |             |             | D205-634-015  | SKIDTUBE INSTALLATION (MODIFIED) |
|      | 1           |             | X           |             |             | D205-634-041  | SKIDTUBE                         |
|      |             | 1           |             | X           |             | D205-634-045  | SKIDTUBE                         |
|      | 1           | 1           |             |             | X           | D205-641-011  | GROUND HANDLING KIT              |
| 1    |             |             | 1           |             |             | D2580-041     | 205 SKIDTUBE ASSEMBLY (STANDARD) |
| 1    |             |             |             | 1           |             | D2580-045     | 205 SKIDTUBE ASSEMBLY (MODIFIED) |
| 2A   |             |             | 16          | 16          |             | D2594-1       | * PLUG                           |
| 2B   |             |             | 16          | 16          |             | D2594-3       | * O-RING                         |
| 3    |             |             | 1           | 1           |             | D2855         | * AFT CAP                        |
| 4    |             |             | 2           | 2           |             | AN3-5A        | * BOLT                           |
| 5    |             |             | 2           | 2           |             | AN960JD10L    | * WASHER                         |
| 6A   |             |             | 1           | 1           |             | D3564-9       | * WEARSHOE (REPLACES D2577-1)    |
| 6B   |             |             | 1           | 1           |             | D3566-1       | * GASKET                         |
| 7A   |             |             | 1           | 1           |             | D3564-11      | * WEARSHOE (REPLACES D2577-3)    |
| 7B   |             |             | 1           | 1           |             | D3566-1       | * GASKET                         |
| 8A   |             |             | 1           | 1           |             | D3564-5       | * WEARSHOE (REPLACES D2577-5)    |
| 8B   |             |             | 1           | 1           |             | D3566-5       | * GASKET                         |
| 9A   |             |             | 1           | 1           |             | D3564-13      | * WEARSHOE                       |
| 9B   |             |             | 1           | 1           |             | D3566-13      | * GASKET                         |
| 10   |             |             | 50          | 50          |             | AN3C4A        | * BOLT (REPLACES AN3-4A)         |
| 11   |             |             | 50          | 50          |             | AN960C10L     | * WASHER (REPLACES AN960JD10L)   |
| 12   |             |             | 50          | 50          |             | ALS4-1032-130 | * INSERT                         |
| 13   |             |             | 2           | 2           |             | ALS4-1032-225 | * INSERT                         |
| 20   | 1           | 1           |             |             |             | D2571         | SADDLE, FWD OUTSIDE              |
| 21   | 1           | 1           |             |             |             | D2572         | SADDLE, FWD INSIDE               |
| 22   | 1           | 1           |             |             |             | D2573         | SADDLE, AFT OUTSIDE              |
| 23   | 1           | 1           |             |             |             | D2574         | SADDLE, AFT INSIDE               |
| 24   | 8           | 8           |             |             |             | AN4-51A       | BOLT                             |
| 25   | 16          | 16          |             |             |             | D2570         | BUSHINGS                         |
| 26   | 8           | 8           |             |             |             | MS21042L4     | NUT (OR MS21042-4)               |
| 27   | 8           | 8           |             |             |             | AN6-12A       | BOLT                             |
| 28   | 8           | 8           |             |             |             | AN960JD616    | WASHER                           |
| 29   | 16          | 16          |             |             |             | AN4-6A        | BOLT                             |
| 30   | 32          | 32          |             |             |             | AN960JD416    | WASHER                           |
| 31   | 16          | 16          |             |             |             | MS21042L4     | NUT (OR MS21042-4)               |
| 32   | 4           | 4           |             |             |             | D2747         | SET SCREW                        |
| 33   | 2           | 2           |             |             |             | D3533-1       | SET SCREW                        |
| 40   | 1           | 1           |             |             |             | D2968-041     | TOW RING                         |
| 41   | 1           | 1           |             |             |             | AN970-4       | WASHER                           |
| 43   | 1           | 1           |             |             |             | MS21042L4     | NUT (OR MS21042-4)               |
| 50   |             |             |             |             | 1           | D2736-1       | GHW LUG                          |
| 51   |             |             |             |             | 1           | D2736-3       | GHW LUG                          |
| 52   |             |             |             |             | 4           | AN4-46A       | BOLT                             |
| 53   |             |             |             |             | 8           | D2570         | BUSHING                          |
| 54   |             |             |             |             | 4           | MS21042L4     | NUT (OR MS21042-4)               |
| 60   | 2           | 2           |             |             |             | D2876         | SADDLE SPACER                    |
| 61   | 2           | 2           |             |             |             | D2877         | SADDLE SPACER                    |

\*DENOTES THAT PART IS INCLUDED WITH ASSEMBLY ABOVE

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Revision: D

Date: 07.04.10

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SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
35912

# Process Sheet

\* Form nrncss

| W/O: |      | WORK ORDER CHANGES |  |    |      |     |                                     |                          |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   |  | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |  |    |      |     |                                     |                          |
|      |      |                    |  |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                      |                                 |                |  |                           |                       |                          |
|------|------|----------------------------------|----------------------|---------------------------------|----------------|--|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action    |                                 | Section B      |  | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng | Action Description<br>Chief Eng | Sign &<br>Date |  |                           |                       |                          |
|      |      |                                  |                      |                                 |                |  |                           |                       |                          |
|      |      |                                  |                      |                                 |                |  |                           |                       |                          |
|      |      |                                  |                      |                                 |                |  |                           |                       |                          |

**NOTE:** Date & initial all entries

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 35912A

Part Number: D205634045

Job Number:



Seq. #:

Machine Or Operation:

Description:

5-Open holes to 0.500" as per Dwg D2580 without cutting fluid

6-Countersink holes as per Dwg D2580 without cutting fluid

7-Deburr and blow out all chips from inside of tube

8-Bond web in place per QSI 015. Allow 12 Hrs. cure time before cutting

Pick:

Qty Part Number Description Batch

A/R Sikaflex-291 105486

Sikaflex expire date: 8-7-1

Start Time: 3:45 Date: 7-11-27

Fin Time: 7:15 Date: 7-11-27

*Handwritten:* [Signature] 7-11-27

*Handwritten:* SL 7-11-27

5.0

BENDING

BENDING MACHINE



Comment: BENDING MACHINE

1-Bend as per program D2580.C on CNC Bender and Folio FT009

2-Cut tubes as per Dwg. D2580

*Handwritten:* EL 7-11-29

6.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Deburr ends after cutting. Remove alodine from around holes

2-Drill extra fwd hole as per DEO 9183 using drill jig DT8461

3-Drill extra middle hole as per DEO 9183 using drill jig DT8462

4-Drill pilot holes for aft cap using DT8215, \*\*\*DO NOT OPEN TO FINISH SIZE\*\*\*

5-Drill extra aft holes as per DEO 9183 using drill jig DT8463 locating from aft cap hole and aft saddle hole.

*Handwritten:* SL 7-11-29

7.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*Handwritten:* [Signature] 12-06-01

| W/O: |      | WORK ORDER CHANGES |  |    |      |     |                                     |                          |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   |  | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |  |    |      |     |                                     |                          |
|      |      |                    |  |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                      |                                 |                |                           |                       |                          |
|------|------|----------------------------------|----------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action    |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                      |                                 |                |                           |                       |                          |
|      |      |                                  |                      |                                 |                |                           |                       |                          |
|      |      |                                  |                      |                                 |                |                           |                       |                          |

NOTE: Date & initial all entries

Date: Wednesday, 11/21/2007 12:46:49 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 35912A

Part Number: D205634045

Job Number:



Seq. #:

Machine Or Operation:

Description:

8.0

D25763

Step (Machining Detail)



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

| Qty | Part Number | Description | Batch  |
|-----|-------------|-------------|--------|
| 1   | D2576-3     | Step        | B33464 |

BE 07/12/10

9.0

D2579

Crossbolt Spacer



Comment: Qty.: 24.0000 Each(s)/Unit Total: 24.0000 Each(s)

Pick:

| Qty | Part Number | Description | Batch  |
|-----|-------------|-------------|--------|
| 24  | D2579       | Spacers     | B34347 |

BE 07/12/10

10.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Prepare tube for welding D2576-3 Step Remove alodine as required.

BE 07/12/10

2-Weld step D2576 as per Dwg. D2580 and QSI 004

A/R Aluminum Rod

M106035

BE 07/12/10

3-Weld crossbolt spacers D2579 as per Dwg. D2580 and QSI 004. For D2579

spacers, weld one

side, pass 3/8" drill, weld other side, pass 3/8" drill

A/R Aluminum Rod

M106035

BE 07/12/10

4-Grind welds as per Dwg D2580 Grind flush ridge made from bending

5-Drill holes for wearplates using DT 8217 Open holes to 19/64", adjust stopper not to hit web. Debur

6-Counterbore crossbolt spacers to 7/16" ID x 1.0" deep as per Dwg D2580. Debur holes

\*\*\*\*\*DO NOT COUNTERBORE EXTRA HOLES PUT IN AT STEP 13, 14 AND 15 (LEAVE AT 0.384"Ø AS PER DEO 9183)\*\*\*\*

7-Open aft cap holes to #6 Drill bit. Debur

8-Drill pilot holes for Tow ring using DT8091, open to .640" and Debur

27-12-17



| W/O: |      | WORK ORDER CHANGES |  |    |      |     |                                     |                          |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   |  | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |  |    |      |     |                                     |                          |
|      |      |                    |  |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                      |                                 |                |  |                           |                       |                          |
|------|------|----------------------------------|----------------------|---------------------------------|----------------|--|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action    |                                 | Section B      |  | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng | Action Description<br>Chief Eng | Sign &<br>Date |  |                           |                       |                          |
|      |      |                                  |                      |                                 |                |  |                           |                       |                          |
|      |      |                                  |                      |                                 |                |  |                           |                       |                          |
|      |      |                                  |                      |                                 |                |  |                           |                       |                          |

**NOTE:** Date & initial all entries

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 35912A

Part Number: D205634045

Job Number:



Seq. #:

Machine Or Operation:

Description :

11.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

1D 07-12-13 (1)

12.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

1A 12/18 (X1)

13.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Pressure wash as per QSI 005

BR 07-12-19 (1)

14.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

✗ Powder Coat \*\*\*\*GREEN\*\*\*\*Sandtex (Ref: 4.3.5.8) as per QSI 005 4.3

FL 07/12/19 (1)

15.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

07-12-19 (1)

16.0

D2855

Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Cap

Batch: B35920

1A

17.0

AN35A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Bolt

Batch: M 100188

1B

18.0

AN960JD10L

Washer



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Washer

Batch: M 104374

1B 07-12-19 (21)

50x AN960C10L

B M106574

\*

1B 07-12-19 (21)

| W/O: |      | WORK ORDER CHANGES |  |    |      |     |                                     |                          |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   |  | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |  |    |      |     |                                     |                          |
|      |      |                    |  |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                      |                                 |                |  |                           |                       |                          |
|------|------|----------------------------------|----------------------|---------------------------------|----------------|--|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action    |                                 | Section B      |  | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng | Action Description<br>Chief Eng | Sign &<br>Date |  |                           |                       |                          |
|      |      |                                  |                      |                                 |                |  |                           |                       |                          |
|      |      |                                  |                      |                                 |                |  |                           |                       |                          |
|      |      |                                  |                      |                                 |                |  |                           |                       |                          |

NOTE: Date & initial all entries

Date: Wednesday, 11/21/2007 12:46:49 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 35912A

Part Number: D205634045

Job Number:



Seq. #:

Machine Or Operation:

Description :

19.0

ALS71032130

Insert



Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s)

Insert

Batch: M105729

\* JA

20.0

AN3C4A

BOLT



Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s)

BOLT

Batch: M106431

JA

21.0

D356613

GASKET



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

GASKET

Batch: B332744

JA

22.0

D35665

GASKET



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

GASKET

Batch: B34354

JA

23.0

D35661

GASKET



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

GASKET

Batch: B35788

JA

24.0

D356413

WEARSHOE



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: B33807

JA

25.0

D356411

WEARSHOE



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: B34352

JA

07-12-19

RD

| W/O: |      | WORK ORDER CHANGES |  |    |      |     |                                     |                          |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   |  | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |  |    |      |     |                                     |                          |
|      |      |                    |  |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                      |                                 |           |                |                           |                       |                          |
|------|------|----------------------------------|----------------------|---------------------------------|-----------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action    |                                 | Section B |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng | Action Description<br>Chief Eng |           | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                      |                                 |           |                |                           |                       |                          |
|      |      |                                  |                      |                                 |           |                |                           |                       |                          |
|      |      |                                  |                      |                                 |           |                |                           |                       |                          |

NOTE: Date & initial all entries

Date: Wednesday, 11/21/2007 12:46:49 PM

User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 35912A

Part Number: D205634045

Job Number:



Seq. #:

Machine Or Operation:

Description :

26.0

D35649

WEARSHOE



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: B34807

ML

27.0

D35645

WEARSHOE



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: B36111

ML

28.0

D25943

O-Ring



Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)

O-Ring

Batch: B327168

ML

29.0

D25941

Plug



Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)

Plug

Batch: B35919

ML

30.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

1-Install inserts &amp; wearplates as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates

A/R Sikaflex-291 M105487Sikaflex expire date: 08-01

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step &amp; Aft Cap with Sikaflex. Clean excess adhesive

A/R Sikaflex-291 M105487Sikaflex expire date: 08-01

5-Wing Walk as per Dwg D2580 and QSI 005 4.4

M106332

Batch:

ML 07/12/19 ①

| W/O: |      | WORK ORDER CHANGES |  |    |      |     |                                     |                          |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   |  | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |  |    |      |     |                                     |                          |
|      |      |                    |  |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☒ No ☐ DQA: ☒ Date: 08/01/11

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                      |                                 |                |                           |                       |                          |
|------|------|----------------------------------|----------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action    |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                      |                                 |                |                           |                       |                          |
|      |      |                                  |                      |                                 |                |                           |                       |                          |
|      |      |                                  |                      |                                 |                |                           |                       |                          |

NOTE: Date & initial all entries

Date: Wednesday, 11/21/2007 12:46:49 PM

User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 35912A

Part Number: D205634045

Job Number:



Seq. #:

Machine Or Operation:

Description :

31.0

QC5

INSPECT WORK TO CURRENT STEP



6/12/24



Comment: Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

32.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D205-634-045

Location:

PPP Rev:

PPP. B35912

08/01/10

AS

(X1)

33.0

QC21

FINAL INSPECTION/W/O RELEASE



(1)

Comment: FINAL INSPECTION/W/O RELEASE

2008/01/11

Job Completion



U 08-01-11



| W/O: |      | WORK ORDER CHANGES |  |    |      |     |                                     |                          |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   |  | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |  |    |      |     |                                     |                          |
|      |      |                    |  |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                      |                                 |                |  |                           |                       |                          |
|------|------|----------------------------------|----------------------|---------------------------------|----------------|--|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action    |                                 | Section B      |  | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng | Action Description<br>Chief Eng | Sign &<br>Date |  |                           |                       |                          |
|      |      |                                  |                      |                                 |                |  |                           |                       |                          |
|      |      |                                  |                      |                                 |                |  |                           |                       |                          |
|      |      |                                  |                      |                                 |                |  |                           |                       |                          |

NOTE: Date & initial all entries



|                  |                |                                                            |                        |
|------------------|----------------|------------------------------------------------------------|------------------------|
| DESIGN<br>#      | DRAWN BY<br>RH | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA   |                        |
| CHECKED<br>#     | APPROVED<br>#  | DRAWING NO.<br>D2580                                       | REV. D<br>SHEET 1 OF 3 |
| DATE<br>07.02.27 |                | TITLE<br>205 SKIDTUBE ASSEMBLY                             | SCALE<br>NTS           |
| A                | 96.09.16       | NEW ISSUE                                                  |                        |
| B                | 96.12.02       | AS MANUFACTURED                                            |                        |
| C                | 98.08.26       | REDRAWN, INCLUDED DEO 9094/9097                            |                        |
| D                | 07.02.27       | CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183 |                        |

RELEASED  
07-06-28 #

| QTY<br>-041 | QTY<br>-045 | Part Number                                                               | Description       |
|-------------|-------------|---------------------------------------------------------------------------|-------------------|
| X           |             | D2580-041                                                                 | SKIDTUBE ASSEMBLY |
|             | X           | D2580-045                                                                 | SKIDTUBE ASSEMBLY |
|             |             |                                                                           |                   |
| 1           | 1           | D2500-1-190                                                               | EXTRUSION         |
| 1           | 1           | D2576-3                                                                   | STEP              |
| 20          | 24          | D2579                                                                     | CROSS BOLT SPACER |
| 16          | 16          | D2594-1                                                                   | PLUG              |
| 16          | 16          | D2594-3                                                                   | O-RING            |
| 1           | 1           | D2596                                                                     | 205 WEB           |
| 1           | 1           | D2855                                                                     | AFT CAP           |
| 1           | 1           | D3564-5                                                                   | WEARSHOE          |
| 1           | 1           | D3564-9                                                                   | WEARSHOE          |
| 1           | 1           | D3564-11                                                                  | WEARSHOE          |
| 1           | 1           | D3564-13                                                                  | WEARSHOE          |
| 2           | 2           | D3566-1                                                                   | GASKET            |
| 1           | 1           | D3566-5                                                                   | GASKET            |
| 1           | 1           | D3566-13                                                                  | GASKET            |
|             |             |                                                                           |                   |
| 50          | 50          | ALS7-1032-130<br>or AKS7-1032-130<br>or AKS4-1032-130<br>or AELS-1032-130 | INSERT            |
| 50          | 50          | AN3C4A                                                                    | BOLT              |
| 2           | 2           | AN3-5A                                                                    | BOLT              |
| 50          | 50          | AN960C10L                                                                 | WASHER            |
| 2           | 2           | AN960JD10L                                                                | WASHER            |

**GENERAL NOTES:**

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL  $\varnothing 0.297$  HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:  
SEE NOTES ON  
PAGE 2 FOR D2580-041 AND  
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 35912A

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Diagram illustrating the grinding locations for the D2576-3 step. The diagram shows a cross-section of the step with the following labels:

- GRIND FLUSH (4 PLACES)
- GRIND FLUSH
- D2576-3 STEP
- LOCATION RIDGE ON UNDERSIDE OF D2576
- $\frac{1}{16}$

#0.208

DRILL PRIOR TO D2855 CAP  
INSTALLATION (2 PLACES)

AN3-5A BOLT (1)  
AN960JD10L WASHER (1)  
(2 PLACES)

D2855 CAP

SEAL WITH  
SIKAFLEX-241/-291

0.40

UN

SC

Diagram of a circular component with labels:

- D2579 SPACER
- D2596 WEB (REF)
- ALST-1032-130 (REF) (TYP 50 PLACES)

Table titled "AFTER PERFORM":

|    |      |
|----|------|
| 1. | CHA  |
| 2. | INSU |
| 3. | WEL  |
| 4. | C'B  |

**AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:**

- 1. CHAMFER HOLE 0.050 X 45°**
- 2. INSERT D2579 SPACER (20 PLACES)**
- 3. WELD INTO PLACE AND GRIND FLUSH**
- 4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP**

37.50  
DISTANCE TO AFT END  
OF D2596 WEB

3  
7

1.750 1.750

#0.508 (TYP.)  
(40 PLACES)

REFER TO DETAIL A

8.750 17.375 26.000 34.188 57.313 (REF)  
7 EQUAL SPACES  
8.188 PITCH

38.0 91.50 190.0  
(D2500-1)

WELD AS PER DETAIL B

BLACK ANTI-SKID TO 0.5 ABOVE LOCATION RIDGE

BLACK ANTI-SKID TOP OF STEP TO 0.5 ABOVE BOTTOM EDGE

0.5

1.5

1.5

D

P P P P P P P

8

1.5

1.5

1.5

REFER TO DETAIL C

D3566-1

D3566-5

D3566-1

D3566-13

O3564-11

O3564-5

O3564-9

O3564-13

AN3C4A BOLT (1)

AN960C10L WASHER (1)

(50 PLACES)

|        |   |          |  |
|--------|---|----------|--|
| DESIGN | / | DRAWN BY |  |
|--------|---|----------|--|

i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

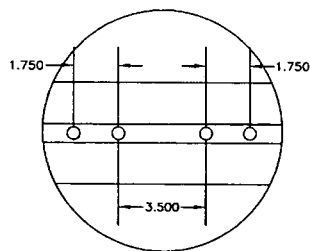
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**DART** DART AEROSPACE LTD.  
HARRISBURG, ONTARIO, CANADA

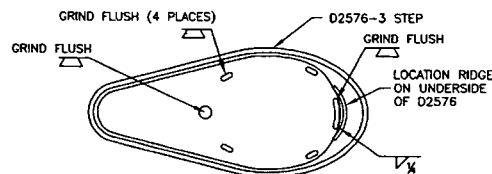
|                       |              |
|-----------------------|--------------|
| DRAWING NO.           | REV. D       |
| D2580                 | SHEET 2 OF 3 |
| TITLE                 | SCALE        |
| 205 SKIDTUBE ASSEMBLY | 1:24         |



**DETAIL E**  
SCALE 5:24

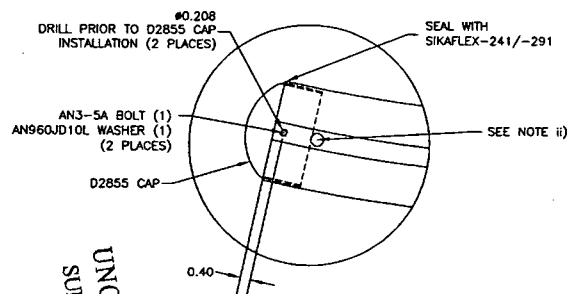


**DETAIL F**  
SCALE 5:24

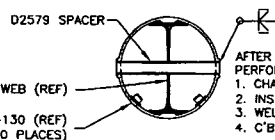


**RELEASED**  
07 Dec 88

**DETAIL G**  
SCALE 5:24

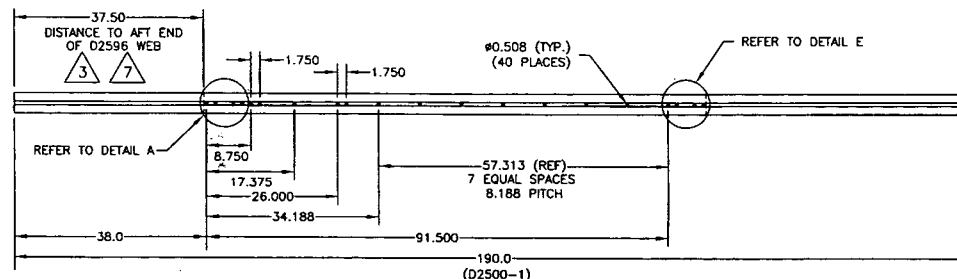


**SECTION H-H**  
SCALE 5:24

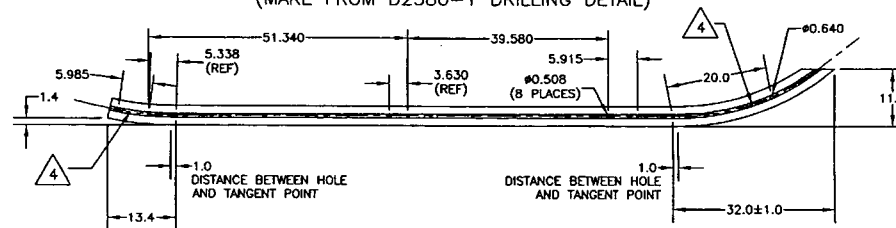


AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR #0.508 HOLES ONLY:  
1. CHAMFER HOLE 0.050 X 45°  
2. INSERT D2579 SPACER (20 PLACES)  
3. WELD INTO PLACE AND GRIND FLUSH  
4. C'BORE D2579 SPACER TO #0.437 X 1.00 DEEP

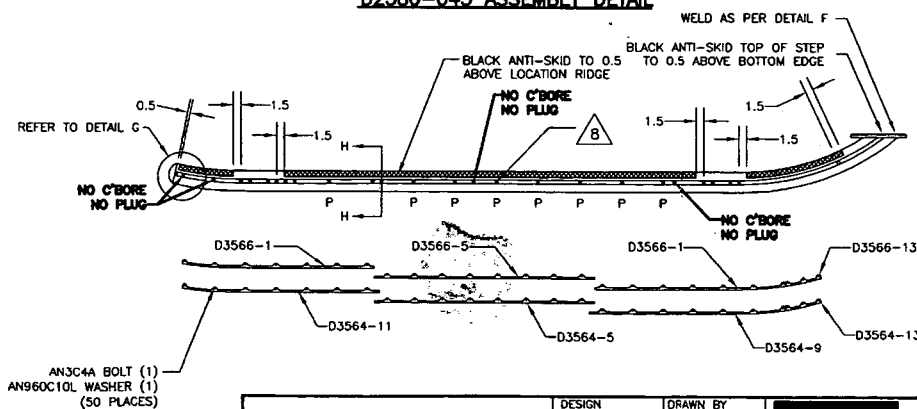
**D2580-1 DRILLING DETAIL**



**D2580-5 BENDING AND CUTTING DETAIL**  
(MAKE FROM D2580-1 DRILLING DETAIL)



**D2580-045 ASSEMBLY DETAIL**



**D2580-045 NOTES**

- FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB  
POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

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|                  |                                |                      |                                                      |
|------------------|--------------------------------|----------------------|------------------------------------------------------|
| DESIGN<br>RH     | DRAWN BY<br>RH                 | <b>DART</b>          | DART AEROSPACE LTD.<br>WARRICKSBURY, OXFORD, ENGLAND |
| CHECKED<br>H     | APPROVED<br>H                  | DRAWING NO.<br>D2580 | REV. 0<br>SHEET 3 OF 3                               |
| DATE<br>07.02.27 | TITLE<br>205 SKIDTUBE ASSEMBLY | SCALE<br>1:24        |                                                      |



NO. 133

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name Barclay Elliot  
Joint Welding Procedure ti  
Part number and Job number D205 634 011 / B35642

TEST WELDS REQUIRED

BASE METAL Aluminium WELDING PROCESS ti  
Penetration Complete ☐ Partial ☒ Single Weld ☒ Double Weld ☐  
Current AC ☒ DC ☐ Backing YES ☐ NO ☒

|              | Position                    | Vertical                    | Down <input type="checkbox"/> | Up <input type="checkbox"/> |
|--------------|-----------------------------|-----------------------------|-------------------------------|-----------------------------|
| Sheet Groove | 1G <input type="checkbox"/> | 2G <input type="checkbox"/> | 3G <input type="checkbox"/>   | 4G <input type="checkbox"/> |
| Tube Groove  | 1G <input type="checkbox"/> | 2G <input type="checkbox"/> | 5G <input type="checkbox"/>   | 6G <input type="checkbox"/> |
| Sheet Fillet | 1F <input type="checkbox"/> | 2F <input type="checkbox"/> | 3F <input type="checkbox"/>   | 4F <input type="checkbox"/> |
| Tube Fillet  | 1F <input type="checkbox"/> | 2F <input type="checkbox"/> | 4F <input type="checkbox"/>   | 5F <input type="checkbox"/> |

Crossbolt Spacer Welded into Skidtube

TEST RESULTS

Visual Pass ☒ Fail ☐  
Penetration Pass ☒ Fail ☐  
Crossbolt Spacer Pass ☒ Fail ☐

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

Date of Test Coupon 07-11-27

Qualifier Pct. Dan